

WHAT IS CLAIMED IS:

1. A trocar assembly comprising:

a sleeve having an upper section and a relatively slender tubular lower section, at least one airtight member being disposed in the upper section;

a trocar having a rod-shaped body section, a bottom end of the body section being a conic thrust section, a circumference of the thrust section being spiraled; a first fine elongated tunnel being axially formed through the body section from top end to bottom end thereof; the trocar being fitted through the sleeve with the thrust section protruding from a bottom end of the sleeve; and

an insufflation needle which is a slender tube body fitted in the first tunnel of the trocar, a bottom end of the insufflation needle being positioned at the thrust section.

2. The trocar assembly as claimed in claim 1, further comprising an indicator needle which is a slender rod body, the indicator needle having a length longer than the length of the insufflation needle by a certain value; the indicator needle being fitted through the insufflation needle and movable within the insufflation needle, when the indicator needle is not touched by external force, the indicator needle falling due to gravity,

whereby a top end of the indicator needle falls on the top end of the insufflation needle, while a bottom end of the indicator needle protrudes from the thrust section.

3. The trocar assembly as claimed in claim 2, wherein a second fine elongated tunnel is formed through the body section of the trocar from top end to bottom end thereof; the trocar assembly further comprising a probe, the probe having a length longer than the length of the second tunnel, the probe being fitted through the second tunnel and movable along the second tunnel, in normal state, the probe falling due to gravity, whereby a top end of the probe is located on the top end of the body section, while a bottom end of the probe protrudes from the bottom end of the trocar.
4. The trocar assembly as claimed in claim 3, wherein the first tunnel is positioned at the center of the body section of the trocar and the bottom end of the indicator needle right protrudes from the tip of the thrust section; the second tunnel being positioned on one side of the body section, the bottom end of the probe protruding from a circumference of the thrust section.
5. The trocar assembly as claimed in claim 3, wherein each of the top ends of the indicator needle and the probe has an indicating section.
6. The trocar assembly as claimed in claim 3, wherein the bottom

end of the probe is an obtuse probe head.

7. The trocar assembly as claimed in claim 1, wherein a second fine elongated tunnel is formed through the body section of the trocar from top end to bottom end thereof; the trocar assembly further comprising a probe, the probe having a length longer than the length of the second tunnel, the probe being fitted through the second tunnel and movable along the second tunnel, in normal state, the probe falling due to gravity, whereby a top end of the probe is located on the top end of the body section, while a bottom end of the probe protrudes from the bottom end of the trocar.
8. The trocar assembly as claimed in claim 1, wherein a clamped section is formed on outer circumference of the sleeve for holding.
9. The trocar assembly as claimed in claim 1, wherein a tray section is disposed at top end of the body section of the trocar, whereby when the trocar is fitted through the sleeve, the tray section abuts against the top end of the sleeve.
10. The trocar assembly as claimed in claim 1, wherein at least one latch notch is formed at the opening of the upper section of the sleeve; at least one engaging body being formed at the top end of the body section of the trocar, whereby the engaging body can be engaged in the latch notch.

11. The trocar assembly as claimed in claim 1, further comprising a fixing member disposed on top end of the body section and displaceable between a latched position and an unlatched position, whereby when the fixing member is moved to the latched position, the fixing member is latched with the top end of the insufflation needle.
12. The trocar assembly as claimed in claim 1, wherein at least one insertion split is formed on top face of the body section of the trocar and at least one locating section is disposed at top end of the insufflation needle, whereby when the insufflation needle is fitted in the trocar, the locating section is inserted in the insertion split.
13. The trocar assembly as claimed in claim 12, further comprising a fixing member disposed on top end of the body section and displaceable between a latched position and an unlatched position, whereby when the fixing member is moved to the latched position, the fixing member is latched with the top end of the insufflation needle.
14. The trocar assembly as claimed in claim 13, wherein a gap is formed on the top end of the body section of the trocar and the fixing member is a plate body, one end of the plate body being pivotally rotatably connected with the top end of the trocar, whereby when the fixing member is moved to the latched position,

the fixing member is inserted into the gap.

15. The trocar assembly as claimed in claim 1, wherein a passage is formed on outer circumference of the sleeve for communicating with the interior thereof.

16. The trocar assembly as claimed in claim 1, further comprising a rotary switch disposed on the top end of the trocar assembly.

17. The trocar assembly as claimed in claim 16, wherein the rotary switch is disposed on the top end of the body section of the trocar and protrudes from the sleeve.

18. A trocar assembly comprising:

a sleeve having an upper section and a relatively slender tubular lower section; at least one airtight member being disposed in the upper section;

a trocar having a rod-shaped body section, a bottom end of the body section being formed with a thrust section, a first fine elongated tunnel being axially formed through the body section from top end to bottom end thereof, the trocar being fitted through the sleeve with the thrust section protruding from a bottom end of the sleeve; and

a first slender indicator member having a length longer than

the length of the first tunnel, the first indicator member being fitted through the first tunnel and movable within the first tunnel, in normal state, the first indicator member falling due to gravity, whereby a top end of the first indicator member is positioned on the top end of the trocar, while a bottom end of the first indicator member protrudes from the first tunnel.

19. The trocar assembly as claimed in claim 18, wherein the bottom end of the first tunnel is positioned right at the center of the thrust section.

20. The trocar assembly as claimed in claim 18, wherein the bottom end of the first tunnel is positioned on the circumference of the thrust section.

21. The trocar assembly as claimed in claim 19, wherein a second fine elongated tunnel is formed through the body section from top end to bottom end thereof, a bottom end of the second tunnel being positioned on the circumference of the thrust section; the trocar assembly further comprising a second indicator member having a length longer than the length of the second tunnel, the second indicator member being disposed in the second tunnel and movable within the second tunnel, in normal state, the second indicator member falling due to gravity, whereby a top end of the second indicator member is positioned on the top end of the trocar, while a bottom end of the second indicator member protrudes from the second tunnel.

22. The trocar assembly as claimed in claim 21, wherein each of the top ends of the indicator members has an indicating section.

23. The trocar assembly as claimed in claim 21, further comprising an insufflation needle which is a slender tube body fitted in the first tunnel, a bottom end of the insufflation needle being positioned at the thrust section; the first indicator member being fitted through the insufflation needle and movable within the insufflation needle.

24. A bracket co-used with a trocar assembly, comprising:

a bracket body, a mounting section being disposed at bottom end of the bracket body for connecting with an operation table;

a suspension arm connected with the bracket body and outward transversely extending from the bracket body as a cantilever; a fitting mouth being disposed at a free end of the suspension arm; and

an elevation arm, one end of the elevation arm being pivotally connected on the bracket body and up and down displaceable to change height, the elevation arm being positioned under the suspension arm; a pulling/lifting section being disposed at a free end of the suspension arm under the fitting mouth; two hook ears being disposed on the

pulling/lifting section for hooking a body, the hook ears being spaced from each other by a certain distance.

25. The bracket as claimed in claim 24, wherein the fitting mouth of the suspension arm is C-shaped; the bracket further comprising a pin member which unlatchably closes an opening of the fitting mouth.
26. The bracket as claimed in claim 25, wherein two lugs are disposed on the suspension arm on the same side as the opening of the fitting mouth; the pin member being fitted through the lugs and slidable between the lugs, when the pin member is slid toward the fitting mouth, the pin member closing the opening of the fitting mouth; a resilient member being disposed between the pin member and the suspension arm, whereby in normal state; the pin member is forced by the resilient member to close the fitting mouth.
27. The bracket as claimed in claim 26, wherein the resilient member is a spring fitted on the pin member, one end of the spring abutting one lug, while the other end of the spring abutting against the pin member.
28. The bracket as claimed in claim 24, wherein two rotary shafts are disposed on the pulling/lifting section of the elevation arm, the two rotary shafts are parallelly spaced from each other by a certain distance; the hook ears being respectively fixedly



connected with the two rotary shafts.

29. The bracket as claimed in claim 28, wherein the pulling/lifting section is C-shaped and the rotary shafts are pivotally disposed on two sides of the pulling/lifting section.
30. The bracket as claimed in claim 29, wherein one end of each rotary shaft is fixedly connected with a shift switch for manually rotating the rotary shaft.
31. The bracket as claimed in claim 24, wherein one end of the elevation arm is pivotally connected with the bracket body, whereby the elevation arm can be up and down angularly displaced to change height.
32. The bracket as claimed in claim 31, wherein the elevation arm has a first arm body and a second arm body pivotally connected with each other, the second arm body being transversely rotatable relative to the first arm body; a free end of the first arm body of the elevation arm being pivotally connected on the bracket body; the pulling/lifting section being disposed at a free end of the second arm body.
33. The bracket as claimed in claim 24, wherein the mounting section is a collar; further comprising a bolt being screwed through a circumferential wall of the collar.

34. The bracket as claimed in claim 24, further comprising a locating member disposed between the elevation arm and the bracket body, whereby when the elevation arm is moved upward, the locating member serves to fix the elevation arm at a fixed height.

35. The bracket as claimed in claim 34, wherein a slot is formed on the suspension arm and at least one ratchet is disposed at the slot; the locating member being a ratchet plate, one end of the ratchet plate being connected with the elevation arm, while the other end of the ratchet plate extending through the slot to engage with the ratchet.

36. A safety trocar device comprising a trocar assembly and a bracket, wherein:

the trocar assembly including:

a sleeve;

a trocar having a rod-shaped body section, a bottom end of the body section being a conic thrust section; a first fine elongated tunnel being axially formed through the body section from top end to bottom end thereof, the trocar being fitted through the sleeve with the thrust section protruding from a bottom end of the sleeve; and

a slender member fitted through the first tunnel; and

the bracket includes:

a bracket body having a mounting section for connecting with an operation table;

a suspension arm connected with the bracket body and outward extending from the bracket body as a cantilever, a fitting mouth being disposed at a free end of the suspension arm; and

an elevation arm, one end of the elevation arm being pivotally connected on the bracket body and up and down displaceable to change height, the elevation arm being positioned under the suspension arm; a pulling/lifting section being disposed at a free end of the suspension arm under the fitting mouth, the pulling/lifting section serving to hook a body;

the trocar assembly being detachably mounted in the fitting mouth of the bracket and manually rotatable.

37. The safety trocar device as claimed in claim 36, wherein the slender member is an indicator member having a length longer than the length of the first tunnel, the indicator member being fitted through the first tunnel and movable within the first tunnel, in normal state, the indicator member falling due to gravity,

whereby a top end of the indicator member is positioned on the top end of the trocar, while a bottom end of the indicator member protrudes from the first tunnel.

38. The safety trocar device as claimed in claim 36, wherein the slender member is a tubular insufflation needle.

39. The safety trocar device as claimed in claim 38, further comprising a first slender indicator member having a length longer than the length of the insufflation needle, the indicator member being fitted through the insufflation needle and movable within it, in normal state, the indicator member falling due to gravity, whereby a top end of the indicator member is positioned on the top end of the trocar assembly, while a bottom end of the indicator member protrudes from the first tunnel.

40. The safety trocar device as claimed in claim 39, wherein a second fine elongated tunnel is formed through the body section of the trocar from top end to bottom end thereof; further comprising a second indicator member having a length longer than the length of the second tunnel, the second indicator member being disposed in the second tunnel and movable within the second tunnel, in normal state, the second indicator member falling due to gravity, whereby a top end of the indicator member is positioned on the top end of the trocar, while a bottom end of the indicator member protrudes from the second tunnel.

41. The safety trocar device as claimed in claim 40, wherein a bottom end of the first indicator member protrudes from the tip of the thrust section; a bottom end of the second indicator member protruding from a circumference of the thrust section.
42. The safety trocar device as claimed in claim 40, wherein each of the top ends of the indicator members has an indicating section.
43. The safety trocar device as claimed in claim 36, further comprising a rotary switch disposed on the top end of the trocar assembly.
44. The safety trocar device as claimed in claim 36, wherein the pulling/lifting section has two hook ears spaced from each other by a certain distance for hooking a body.
45. The safety trocar device as claimed in claim 36, further comprising a locating member disposed between the elevation arm and the bracket body, whereby when the elevation arm is moved upward to the suspension arm, the locating member serves to maintain the height of the elevation arm.